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ABSTRACT

Traditional adult education has been literacy-oriented, but the curriculum content and methodology has been inadequate in maintaining motivation and interest. An important effort to eradicate these problems has been the Farmer's Functional Literacy Program in India. This major project relates adult education and training in modern agricultural practices. The experimental project was designed in India to develop curriculum materials specifically oriented to problem-solving rather than oriented solely to information supply. The project's five phases consisted of: an exploratory phase, a syllabus and curriculum construction phase, material preparation phase, an action phase, and an evaluation. A survey was conducted to identify crucial problems faced by farmers. From the findings, problems and objectives were classified and selected. Remedial measures were established, focusing on these problems. The organization of the syllabus reformulated the problems in terms of positive remedial operations and transformed into units or contents which are described. The two steps in the syllabus incorporate these remedial measures for farmers and then convey skills needed for improvement. Illustrations of problem-solving approach and curriculum development are provided. A brief report of the action phase is provided, and tentative evaluation criteria discussed. (Author/JB)

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CURRICULUM PREPARATION

FOR

ADULT EDUCATION PROGRAMME

An Indian Experiment

by

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Curriculum Preparation for Adult Education Programme - An Indian Experiment*

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Adult Education Curriculum; the Traditional Approach

The Achilles' Heel of Adult Education Programme is what lies at its core - the curriculum content. All other aspects depend upon and flow from it - the methodology, the teacher-learner relationship, the motivation, sustenance of interest and ultimately the community impact.

If adult education had not made much headway in the past and if it evoked sceptic tolerance, a large part of the reason can be traced to the lack of relevance of the programme content to what was of concern to the adult learner.

Traditional adult education, by and large, has been literacy-oriented - teaching adults to read and write - the mastery of a certain degree of skill. Several techniques have been evolved and used over the years in imparting this skill, but basically the emphasis has been on how facilely the adult can be taught to master "the magic key" to education - literacy.

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Obviously the programme has not attracted the adults adequately nor convinced them of the value to their lives. Two big hurdles have dogged adult education efforts: one, the difficulty in motivating adults and second, the problem of sustaining their interest sufficiently long to help them to reach a point of no return. Neither the content nor the method have helped in overcoming these two difficulties. The largest deterrent factor is perhaps the psychological approach - the irresistible tendency to talk 'down' to the adult. Adult education programmes have been offering more or less what is offered to a child who begins his schooling at the age of six. For all educational purposes the adult is being treated at the awareness level of a child, whereas in real fact, he is a mature individual in his own right. He is a responsible member of the society and of his own family; he is expected to and does participate in several democratic and developmental processes of the community, and is very often called upon to make decisions and solve problems.

A Departure: Functional Literacy

In recent years there has been a wider recognition of this inadequacy of traditional literacy programme, materials and methods, and of the need to devise materials which will be functionally oriented, that is, which will be related to the adult's life and vocational interest, and the day-to-day problems which he has to confront and overcome.

A major effort in this direction is represented by the Farmers Functional Literacy Programme that has been in implementation for the last six years. For the first time in the history of adult education in India, this represents a country-wide programme of adult education directly related to a developmental activity of vital interest both to the adult and to the nation, namely, increasing agricultural production. In this programme, adult education is an integral part of a package deal - consisting of training in the knowledge and know-how of modern agricultural practices, education to help the farmer to benefit continuously from the written word, and the development of new socio-cultural attitudes, rational approach to work and life situations, and new understandings.

The curriculum materials for the farmers functional literacy programme were, therefore, developed around the package of practices required for increasing agricultural output in the selected areas where the high yielding varieties of crops were being cultivated. The materials laid stress on the various inputs necessary in making the high yield variety cultivation successful - better seeds, improved irrigation, use of fertilizers, control of pests, and the availability of credit through cooperatives and other means. The prototype materials were prepared centrally, based on the major crops that were cultivated in the high yielding varieties

areas. These materials consisted of a first reader,[1] supported by a set of five supplementary readers on various aspects of the high yielding varieties cultivation. The different districts were expected to adopt or adapt them to suit local conditions. Over 70 different materials have been developed in the 107 districts in the country covered under this project.

Genesis of a new Experiment

Nevertheless, as the project progressed, it was observed that these educational materials still fell short of what really concerned the farmers most. While they understood the need and value of all the various inputs, in the process of actual operation, they came up against several difficulties and problems, and they needed help to solve them. In the functional literacy classes, they raised these issues and expected meaningful answers. The functional literacy programme, therefore, had to be oriented to help them in understanding and overcoming these difficulties. The accent on the materials had to be shifted from a supply of information on materials and inputs, to an exploration of ways of solving problems which prevented them from getting the maximum advantage from these inputs. In other words,

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1 Kisan Saksharata Yojana - Paheli Pustak, Directorate of Adult Education, New Delhi 1970

the materials had to be problem-oriented. This does not mean that the materials can or will deal with all the agricultural and scientific and economic subjects connected with the agricultural practices, nor all of the big and small problems raised. It would concern itself with such skills, knowledge and practices which the farmer should learn to offset those physical, socio-cultural and economic factors which hinder the attainment of the agricultural objectives. It is hoped that in due course this will lead to an approximation of the farmer's socio-cultural values and technical competence to the developmental targets.

In response to this clearly defined need, an experimental project was designed to develop curriculum materials specifically oriented to these problems.[2] To this date this project represents the most elaborate and scientific effort in the preparation of curriculum materials in adult education in India.

The project was designed for the district of Jaipur in the State of Rajasthan and is currently in the process of being tried out. It has been planned in five phases:

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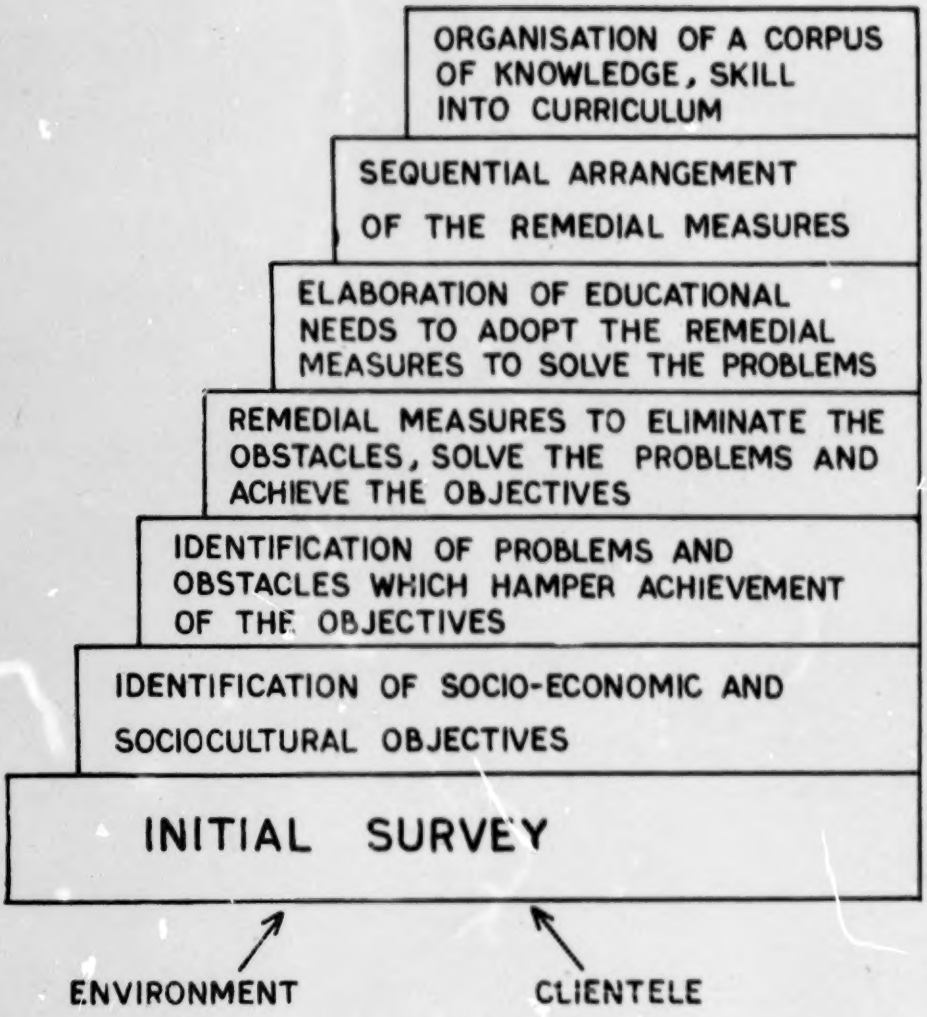
2 Farmers Functional Literacy Programme: Preparation of Problem-Oriented Learning Materials Experimental Project in Jaipur District ... Directorate of Adult Education, Ministry of Education & Social Welfare, New Delhi, 1974.

- First, an Exploratory Phase consisting of a survey to identify the problems faced by farmers in adopting the new varieties of seeds and corresponding agricultural practices;
- Second, a Syllabus and Curriculum Construction Phase consisting of the identification of remedial measures to be adopted by farmers for overcoming the problems as indicated by the survey, and the arrangement of the syllabus based on the information, knowledge and skill necessary to implement these remedial measures.
- Third, a Material Preparation Phase consisting of the preparation of a first book, posters and charts, teacher's guide and supplementary readers.
- Fourth, an Action Phase where the materials so developed are tried out in a limited number of selected functional literacy classes, with the teaching and supervisory personnel adequately trained.
- Lastly, an Evaluation Phase in which the suitability of the materials and their approach would be assessed, and the socio-economic and educational impact measured.

I. The Exploratory Phase

The project began with a Problem-Survey. A team consisting of an agricultural extensionist, a rural sociologist and a linguist set out to conduct a quick survey in the district to identify the crucial problems faced by farmers in the


ORGANISATION OF A CORPUS OF KNOWLEDGE, SKILL INTO CURRICULUM
SEQUENTIAL ARRANGEMENT OF THE REMEDIAL MEASURES
ELABORATION OF EDUCATIONAL NEEDS TO ADOPT THE REMEDIAL MEASURES TO SOLVE THE PROBLEMS
REMEDIAL MEASURES TO ELIMINATE THE OBSTACLES, SOLVE THE PROBLEMS AND ACHIEVE THE OBJECTIVES
IDENTIFICATION OF PROBLEMS AND OBSTACLES WHICH HAMPER ACHIEVEMENT OF THE OBJECTIVES
IDENTIFICATION OF SOCIO-ECONOMIC AND SOCIOCULTURAL OBJECTIVES
INITIAL SURVEY
ENVIRONMENT
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STEPS IN A PROBLEM ORIENTED CURRICULUM FORMULATION

programme, the remedial measures that should be taken, and how conscious farmers were of the problems and how prepared they were to take remedial action.

The data and information were collected by interviewing individually and in groups, a wide variety of persons in the district concerned with the programme - agricultural and educational specialists, farmers, village level workers, university professors, farmers training centre staff, among others.

Major findings

The survey showed certain very clear indications of the characteristics of the farmers and their receptivity and response to the programme. It was observed:

- that a majority of the illiterate and semi-literate farmers are small land owners with about 3 acres of land, mostly suitable for dry farming;
- that they do not and are not inclined to cultivate only hybrid variety of wheat but prefer to mix the hybrid with local varieties;
- that when they cultivate new varieties, the yield per acre is less than the optimum;
- that they would be willing to adopt the high yielding varieties if timely inputs were assured;

- that they have little contact with the services which Government offer to the farmer;
- that they do take interest in the information broadcast by the Farm and Home Unit; and
- that they are aware of the handicap caused by the lack of literacy, in having access to technical knowledge and the possessing necessary computational skills for marketing, etc.

The linguistic survey provided data about the vocabulary used in the district, and the linguistic peculiarities as contrasted with standard Hindi. About 600 local words used in discussions on agricultural and rural subjects were identified.

Selection and classification of problems

The next step was to select and classify the identified problems in appropriate categories and in order of their "commonness" and "cruciality". They were grouped under four categories: those that were

- common and primary
- crucial and common
- less crucial and common
- non-crucial and uncommon.

The most common primary problem was the partial resistance among the farmers to the adoption of high yielding varieties due to socio-cultural factors.

The crucial and common problems related to the lack of control measures against white grub, the inadequacy of cooperatives, and inappropriate marketing infrastructures and facilities.

Diagnosis and Interpretation

The problem survey brought out the fact that it is middle and the big farmers who participate most actively in the high yielding varieties programme, who are better able to reach the production target set by the Government, and who are able to take greater advantage of the new technologies and facilities. The smaller farmers are less directly involved but it is they who constitute the large section of the functional literacy audience. Their training needs would naturally need to be different from those of the bigger farmers and take into the account the difference in level of involvement.

The objective of the functional literacy project in this district was, therefore, formulated in the following terms:

> to increase the level of involvement of the small illiterate farmers in the adoption of high yielding varieties by solving problems which caused their partial resistance to it.

II. The Syllabus and Curriculum Construction Phase

Having identified the problems, the project next proceeded to identify agricultural remedial measures to be adopted by the farmers. These measures focussed on soil improvement, better

irrigation, detection and control of white grubs, know-how of the multiple cropping schemes, and revitalisation of the cooperatives.

Sequential Organisation of Syllabus

The problems identified and diagnosed in the first phase had now to be (a) reformulated in terms of positive remedial operations; and (b) transformed into contents or units of the functional literacy syllabus.

The syllabus is composed of 25 main topics and is based on the following premises:

- it should lead to the achievement of the main goal of the programme i.e. to increase the level of involvement of the small illiterate farmers, to help them to solve their problems and to promote the adoption of the high yielding varieties.
- the core of each unit should be centred around an agricultural problem, task or operation.
- it should aim not only at knowledge delivery, but also at the promotion of understanding of social and natural phenomena, development of the scientific spirit, attitudinal changes, strengthening of motivation and readiness for action.
- it should initiate the learner into logical, mathematical and scientific

thinking and assimilation of new concepts and inter-relationships, reading and writing skills until he is able to enter into an autonomous process of learning and communication using the written word.

- it should ensure close correlation between the agricultural operations and the learning content, between farming calendar and the learning schedule.
- it should represent an approach that integrates farming problems and the learning situation, theory and practices, the reading and writing skills and agricultural operations.

From the above, it will be seen that the elaboration of educational activities is based on the milieu or the environment. This milieu understandably is a complex composite organic structure, combining geographical, human, economic, social and cultural factors. It is this orientation of the curriculum to the milieu in which the adult learner lives and works that signifies the fundamental methodological departure of this experiment from all previous efforts.

III. Material Preparation Phase

The learning-teaching materials prepared on the basis of this syllabus are chacterised by the following features:

- they are based on the problems and obstacles encountered by the farmer in this area in cultivating the bajra (problem identification)
- they are oriented to help the farmer to solve the economic, agricultural and social problems (problem solution)
- they are formulated in an inter-disciplinary way, grouping various pedagogical components around real problems (unit-wise organisation)
- they correspond closely to the conditions and needs of the environment (ecological approach)

The materials are prepared in the form of units: each unit consisting of seven components:

- functional components:
  sentences, arithmetical expressions, drawing and work plans, analysis and demonstration of working operation
- rational components
  formulae, arithmetical expressions, drawings, pictures, sentences conveying mathematical and scientific concepts linked with agricultural practices.
- Socio-economic components
  sentences, texts, diagrams etc. conveying information about the social and economic value and effects of development

- instrumental components

  exercises in readin., writing and calculation all connected with the contents

- didactic component

  mainly designed for the teacher in the form of a teacher's guide[3]

- evaluative component

  consists of tests and tools for measuring learner's achievement in the 'units'.

The syllabus consists of two stages - the first stage consists of 22 units of agricultural operations incorporating the remedial measures necessary for overcoming the obstacles encountered by the farmers and allied concepts. The second conveys skills, knowledge and aptitude needed by the farmers for revitalising their cooperatives.

The First Book contains the first 11 units.[4]

Presentation of Content

Each unit in the learning materials presents technical, rational and socio-economic contents in the following order:

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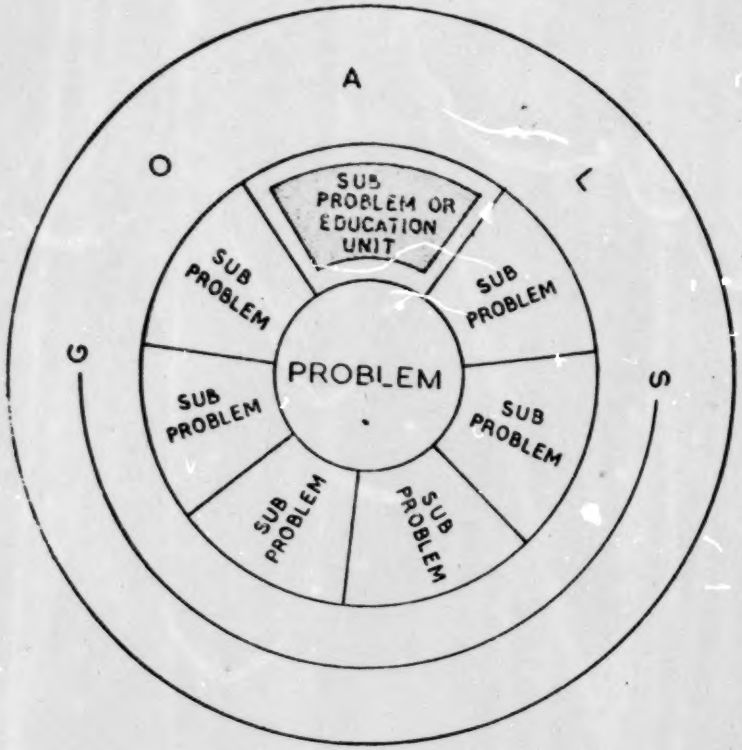
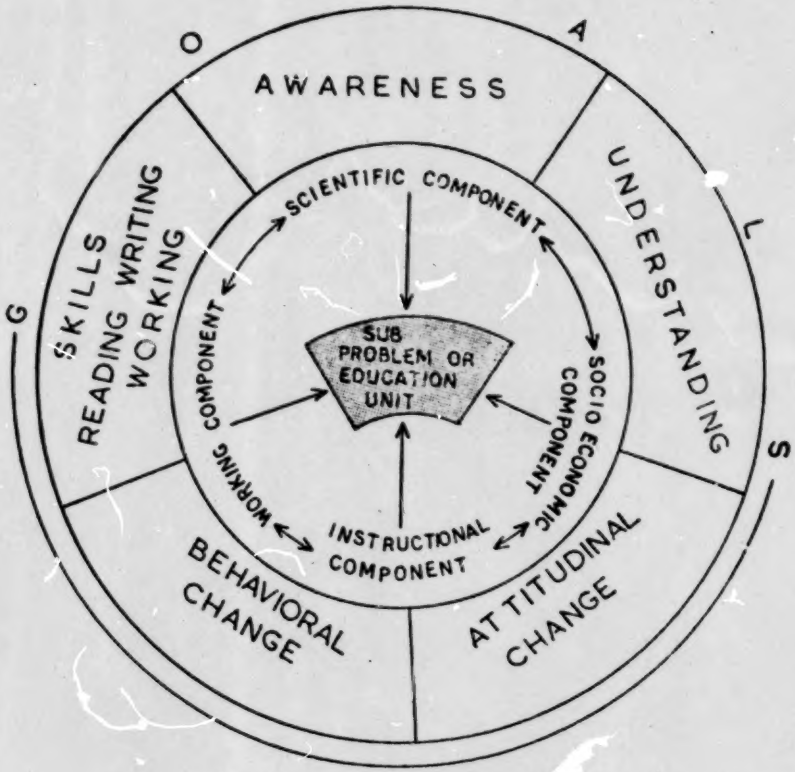
3 Experimental Project: Teacher's Guide Directorate of Adult Education, Ministry of Education & Social Welfare, New Delhi 1974.

4 Kisan Saksharata Yojana. Prayogatmak Pustak - Part I: Directorate of Adult Education, Ministry of Education & Social Welfare, New Delhi 1974.

PROBLEM CENTRED CURRICULUM: AN ELABORATION



The drawing up of the curriculum consists of several sequential phases : (a) identification of problems and obstacles arising from or retarding the achievement of specific socio-economic or social-cultural objectives ; (b) breaking the problem down into sub-problems essentially those which can be treated through educational inputs ; (c) identification of remedial measures and their breaking down into educational units ; (d) organisation of an inter-disciplinary body of knowledge and know-how, as well as of contents leading the learners to an active solution of their problems.



This diagram shows how-each sub-problem is translated into a pedagogical unit made up of inter-reacting, scientific, socio-economic, instructional and working components. The learning process, based on such a curriculum should lead the learner to a better awareness and understanding of surrounding problems ; to desirable attitudinal and behavioural changes and a gain in skills.

- A poster with a caption relating to an agricultural problem or working operation[5]
- working instruction or concept through visuals and captions related to that operation
- working instructions with socio-economic, scientific and mathematical concepts in written symbols related to the same operation
- analysis of words into alphabet
- fixation of reading, writing and arithmetical skills
- exercises for skill development
- further exercises in these skills such as synthesis of new words and numbers, composition etc.

Special features

All parts of the content are inter-connected and are based on needs, activities, functions and occupational concerns of the learners.

All parts of each unit are linked to the same life or work problem but from different angles - it represents an initial attempt at an inter-disciplinary presentation.

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5 A set of 10 charts accompany the First Book - being enlargement of the first picture beginning each unit.

The material can be used both 'horizontally' and 'vertically' - the former by grouping all parts of a unit around a multi-faceted problem, and the latter by combining and linking some portions of different units.

A system of multiple pagination has been adopted to facilitate a multipurpose utilisation of the material. While one denotes the serial number of the page, the other is a code indicating different aspects of the same unit.

The Teacher's Guide gives detailed guidelines to the instructor on how to use these materials, what methods to adopt, the place of group dynamics, time schedule, unit-wise treatment and evaluation tests and tools.

IV. Action Phase

Thirdly villages have been selected for the try-out of these materials. The teachers have been put through an initial orientation followed by a brief refresher course just before the introduction of the materials.

Before the try-out began, a benchmark survey was conducted to diagnose and categorise the socio-economic back-ground, the educational status, agricultural knowledge and skills, and attitudes towards modern practices.

The data collected through this survey will be compared with the results of evaluation tests at

the end of the pedagogical units. That will be the final concluding phase of the experiment.

The analysis of the data is currently in progress. The try-out of the materials began in the first week of November.

The results are being watched through weekly long-sheets maintained by the teachers.

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The validity of this ecological, environmental based approach is now being increasingly recognised and is being adopted in some adult education and functional literacy programmes in India. In fact it has now come to be believed that such an approach is an essential pre-requisite before any meaningful adult education programme can be formulated and put on the ground. The latest application on a large scale of this problem-oriented approach to adult education is in the non-formal education programme which is being planned for the age-group 15-25. Being a relatively younger, more alert, sensitive, critical and vocal group, it becomes even more imperative to make the curriculum closely related to the milieu in which these young people live and react. The programme which is being formulated for this age-group has, therefore identified, on the basis of field surveys, certain broad problem

areas which are of most general concern individually and collectively. An analysis has been made of these problems, and of the measures to overcome them in terms of understanding, knowledge and know-how, attitudinal and behavioural changes, development of new value systems, acquisition of scientific and rational approach, literacy skills and the decisive action that the young learners will be led to take as a culmination of the learning process. The learning materials will have to be based on this analysis.

Such an environment-based problem-oriented approach obviously implies diversifications and flexibilities of the highest order. No two environments are identical in structure and characteristics; nor are the attitudes, approaches and responses of adults in different situations. The curriculum would, therefore, need to be adapted to each situation. Ideally conceived, the teacher of each adult group should develop his own curriculum materials, suited to the needs of his group, the local ecological situation and the local operational calendar. No centrally prepared material can achieve the perfect matching of the learning needs to every milieu. But in a situation like India where the programme depends upon a wide variety of instructors drawn from

different backgrounds with widely varying educational and pedagogical competences, such individualised materials may not be feasible. The absence of a well-defined and specialised cadre of adult educators, and centres of research in adult education methods and techniques also adds to this problem. A beginning will, therefore, have to be made with materials prepared at the State level with possibilities for adaptation for district variations. In the long run, however, teachers even at the village level should be enabled by professional guidance and technical help to adapt these materials to their special circumstances. The possibilities of experimentation and action research in this area are infinite but unexplored. Colleges of education, university departments of adult education and departments of sociology etc. have a vast area for scientific studies in this field.